I CLAIM:

1. A spinal implant for insertion between adjacent vertebral bodies, comprising:

opposed upper and lower surfaces adapted to contact each of the adjacent vertebral bodies, respectively from within the disc space;

a leading end for insertion between the adjacent vertebral bodies;

a trailing end opposite said leading end, said trailing end having an exterior surface and an outer perimeter with an upper edge and a lower edge adapted to be oriented toward the adjacent vertebral bodies, respectively; and

a plurality of bone screw receiving holes in said trailing end, at least one of which is adapted to only partially circumferentially surround a trailing end of a bone screw adapted to be received therein, at least one of said bone screw receiving holes passing through said exterior surface and one of said edges so as to permit the trailing end of the bone screw to protrude beyond said one of said edges.

2. The implant of claim 1, wherein said implant is a fusion implant.

3. The implant of claim 1, wherein a plane of said trailing end is curved.

4. The implant of claim 1, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

5. The implant of claim 1, wherein said outer perimeter of said trailing end has at least one gap therein for permitting a portion of at least an outer diameter of a bone screw to protrude

beyond said outer perimeter of said trailing end, said gap in said bone screw receiving hole dimensioned to be less than the outer diameter of the bone screw.

6. The implant of claim 1, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges is C-shaped in cross section.

7. The implant of claim 1, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges has a partial circumference intersecting with the outer perimeter of said trailing end.

8. The implant of claim 1, wherein said trailing end is relieved to allow for a head of a bone screw inserted into one of said bone screw receiving holes to be at least partially recessed.

9. The implant of claim 1, wherein at least two of said plurality of bone screw receiving holes are at different distances from the mid-longitudinal axis of said implant.

10. The implant of claim 1, wherein said trailing end is generally quadrilateral in shape.

11. The implant of claim 1, wherein at least one pair of said plurality of bone screw receiving holes are adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

12. The implant of claim 11, wherein said plurality of bone screw receiving holes includes a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

13. The implant of claim 12, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

14. The implant of claim 11, wherein said angle is greater than 15 degrees and less than 60 degrees.

15. The implant of claim 1, further comprising at least one lock for retaining a bone screw within said implant.

16. The implant of claim 15, wherein said at least one lock retains a plurality of bone screws to said implant.

17. The implant of claim 1, further comprising at least one bone screw having a leading end for placement in the vertebral body and a trailing end opposite said leading end adapted to cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within one of said plurality of bone screw receiving holes of said implant.

18. The implant of claim 1, wherein said implant comprises one of bone and bone growth promoting material.

19. The implant of claim 18, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

20. The implant of claim 1, wherein said implant is treated with a bone growth promoting substance.

21. The implant of claim 1, wherein said implant comprises at least one of the following materials: metal, titanium, plastic, and ceramic.

22. The implant of claim 1, wherein said implant is formed of a porous material.

23. The implant of claim 1, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

24. The implant of claim 23, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

25. The implant of claim 1, in combination with a chemical substance to inhibit scar formation.

26. A spinal implant for insertion between adjacent vertebral bodies, comprising:

opposed upper and lower surfaces adapted to contact one each of the adjacent vertebral bodies from within the disc space;

a leading end for insertion between the adjacent vertebral bodies; and

a trailing end opposite said leading end, said trailing end having an upper edge and a lower edge, said trailing end being adapted to only partially circumferentially surround the circumference of at least one bone screw adapted to be received therein.

27. The implant of claim 26, wherein said implant is a fusion implant.

28. The implant of claim 26, wherein said trailing end is curved.

29. The implant of claim 26, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

30. The implant of claim 26, wherein at least one of said upper and lower edges of said trailing end has at least one gap therein for permitting a portion of at least an outer diameter of a bone screw to protrude beyond said at least one of said upper and lower edges of said trailing end, said gap being dimensioned to be less than the outer diameter of the bone screw.

31. The implant of claim 26, wherein said trailing end is relieved to allow for a head of a bone screw inserted into said trailing end to be at least partially recessed.

32. The implant of claim 26, wherein said trailing end is adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

33. The implant of claim 32, wherein said trailing end has a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

34. The implant of claim 33, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

35. The implant of claim 26, further comprising at least one lock for retaining a bone screw within said implant.

36. The implant of claim 35, wherein said at least one lock retains a plurality of bone screws to said implant.

37. The implant of claim 26, further comprising at least one bone screw having a leading end for placement in the vertebral body and a trailing end opposite said leading end adapted to

cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within said trailing end of said implant.

38. The implant of claim 26, wherein said implant comprises one of bone and bone growth promoting material.

39. The implant of claim 38, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

40. The implant of claim 26, wherein said implant comprises at least one of the following materials: metal, titanium, plastic, and ceramic.

41. The implant of claim 26, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

42. The implant of claim 41, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

43. The implant of claim 26, in combination with a chemical substance to inhibit scar formation.

44. A spinal implant for insertion between adjacent vertebral bodies, comprising:

opposed upper and lower portions adapted to contact each one of the adjacent vertebral bodies from within the disc space;

a leading end for insertion between the adjacent vertebral bodies; and

a trailing end opposite said leading end, said trailing end having an upper edge, a lower edge, and a maximum height therebetween, said trailing end being adapted to receive at least a portion of a bone screw passing therein that extends beyond said maximum height immediately adjacent thereto.

45. The implant of claim 44, wherein said implant is a fusion implant.

46. The implant of claim 44, wherein said trailing end is curved.

47. The implant of claim 44, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

48. The implant of claim 1, wherein at least one of said upper and lower edges of said trailing end has at least one gap therein for permitting a portion of at least an outer diameter of a bone screw to protrude beyond said at least one of said upper and lower edges of said trailing end, said gap being dimensioned to be less than the outer diameter of the bone screw.

49. The implant of claim 44, wherein said trailing end is relieved to allow for a head of a bone screw inserted into said trailing end to be at least partially recessed.

50. The implant of claim 44, wherein said trailing end is adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

51. The implant of claim 50, wherein said trailing end has a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

52. The implant of claim 51, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

53. The implant of claim 44, further comprising at least one lock for retaining a bone screw within said implant.

54. The implant of claim 53, wherein said at least one lock retains a plurality of bone screws to said implant.

55. The implant of claim 44, further comprising at least one bone screw having a leading end for placement in the vertebral body and a trailing end opposite said leading end adapted to

cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within said trailing end of said implant.

56. The implant of claim 44, wherein said implant comprises one of bone and bone growth promoting material.

57. The implant of claim 56, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

58. The implant of claim 44, wherein said implant comprises at least one of the following materials: metal, titanium, plastic, and ceramic.

59. The implant of claim 44, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

60. The implant of claim 59, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

61. The implant of claim 44, in combination with a chemical substance to inhibit scar formation.

62. A spinal implant for insertion between adjacent vertebral bodies, comprising:

opposed upper and lower surfaces adapted to contact each one of the adjacent vertebral bodies from within the disc space;

a leading end for insertion between the adjacent vertebral bodies; and

a trailing end opposite said leading end, said trailing end having a plurality of bone screw receiving holes, an upper edge, a lower edge, and a maximum height therebetween, said maximum height of said trailing end being adapted to be less than the sum of the maximum diameter of two bone screws adapted to be inserted in said bone screw receiving holes, said bone screw receiving holes being adapted to incompletely circumferentially receive at least one of the bone screws.

63. The implant of claim 62, wherein said implant is a fusion implant.

64. The implant of claim 62, wherein said trailing end is curved.

65. The implant of claim 62, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

66. The implant of claim 62, wherein at least one of said upper and lower edges of said trailing end has at least one gap therein for permitting a portion of at least an outer diameter of a bone screw to protrude beyond said at least one of said upper and lower edges of said

trailing end, said gap in said bone screw receiving hole dimensioned to be less than the outer diameter of the bone screw.

67. The implant of claim 62, wherein at least one of said bone screw receiving holes is C-shaped in cross section.

68. The implant of claim 62, wherein said trailing end is relieved to allow for a head of a bone screw inserted into one of said bone screw receiving holes to be at least partially recessed.

69. The implant of claim 62, wherein at least one pair of said plurality of bone screw receiving holes are adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

70. The implant of claim 70, wherein said plurality of bone screw receiving holes includes a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

71. The implant of claim 70, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

72. The implant of claim 62, further comprising at least one lock for retaining a bone screw within said implant.

73. The implant of claim 72, wherein said at least one lock retains a plurality of bone screws to said implant.

74. The implant of claim 62, further comprising at least one bone screw having a leading end for placement in the vertebral body and a trailing end opposite said leading end adapted to cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within one of said plurality of bone screw receiving holes of said implant.

75. The implant of claim 62, wherein said implant comprises one of bone and bone growth promoting material.

76. The implant of claim 75, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

77. The implant of claim 62, wherein said implant comprises at least one of the following materials: metal, titanium, plastic, and ceramic.

78. The implant of claim 62, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

79. The implant of claim 62, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

80. The implant of claim 62, in combination with a chemical substance to inhibit scar formation.

81. A spinal fusion implant for insertion between adjacent vertebral bodies, comprising:

an implant having:

opposed upper and lower surfaces adapted to contact each of the opposed adjacent vertebral bodies from within the disc space;

a leading end for insertion between the adjacent vertebral bodies;

a trailing end opposite said leading end, said trailing end having an exterior surface and an outer perimeter with an upper edge and a lower edge adapted to be oriented toward the adjacent vertebral bodies, respectively; and

a plurality of bone screw receiving holes in said trailing end, at least one of which is adapted to only partially circumferentially surround the trailing end of a bone screw adapted to be received therein, at least one of said screw receiving holes passing through said exterior

surface and one of said edges so as to permit the bone screw to protrude over one of said edges within a plane of said trailing end; and

at least one bone screw, said screw having:

a leading end for placement in the vertebral body; and opposite,

a trailing end adapted to cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within said implant.

82. The implant of claim 81, wherein said implant is a fusion implant.

83. The implant of claim 81, wherein said plane of said trailing end is curved.

84. The implant of claim 81, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

85. The implant of claim 81, wherein said outer perimeter of said trailing end has at least one gap therein for permitting a portion of at least an outer diameter of a bone screw to protrude beyond the outer perimeter of said trailing end, said gap in said bone screw receiving hole dimensioned to be less than the outer diameter of the bone screw.

86. The implant of claim 81, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges is C-shaped in cross section.

87. The implant of claim 81, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges has a partial circumference intersecting with the outer perimeter of said trailing end.

88. The implant of claim 81, wherein said trailing end is relieved to allow for a head of a bone screw inserted into one of said bone screw receiving holes to be at least partially recessed.

89. The implant of claim 81, wherein at least one pair of said plurality of bone screw receiving holes are adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

90. The implant of claim 89, wherein said plurality of bone screw receiving holes includes a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

91. The implant of claim 90, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

92. The implant of claim 81, further comprising at least one lock for retaining a bone screw within said implant.

93. The implant of claim 92, wherein said at least one lock retains a plurality of bone screws to said implant.

94. The implant of claim 81, wherein said implant comprises one of bone and bone growth promoting material.

95. The implant of claim 94, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

96. The implant of claim 81, wherein said implant comprises at least one of the following materials: metal, titanium, plastic, and ceramic.

97. The implant of claim 81, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

98. The implant of claim 97, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

99. The implant of claim 81, in combination with a chemical substance to inhibit scar formation.

100. An interbody spinal implant for insertion between adjacent vertebral bodies, comprising:

opposed upper and lower surfaces adapted to contact each of the adjacent vertebral bodies, respectively from within the disc space;

a leading end for insertion between the adjacent vertebral bodies; and

a trailing end opposite said leading end, said trailing end having an exterior surface and an outer perimeter with an upper edge and a lower edge adapted to be oriented toward the adjacent vertebral bodies, respectively; said outer perimeter having at least one gap therein for permitting a portion of a bone screw to protrude over the outer perimeter of said trailing end within a plane of said trailing end, said gap being sufficient to retain a trailing end of the bone screw.

101. The implant of claim 100, wherein said implant is a fusion implant.

102. The implant of claim 100, wherein said trailing end is curved.

103. The implant of claim 100, wherein said implant has a height equal to the distance between the adjacent vertebral bodies where installed into the disc space when installed.

104. The implant of claim 100, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges is C-shaped in cross section.

105. The implant of claim 100, wherein at least one of said bone screw receiving holes passing through said exterior surface and one of said edges has a partial circumference intersecting with the outer perimeter of said trailing end.

106. The implant of claim 100, wherein said trailing end is relieved to allow for a head of a bone screw inserted into one of said bone screw receiving holes to be at least partially recessed.

107. The implant of claim 100, wherein at least one pair of said plurality of bone screw receiving holes are adapted to orient bone screws to be received therein at an angle to a horizontal mid-longitudinal plane of said implant passing through said leading and trailing ends.

108. The implant of claim 107, wherein said plurality of bone screw receiving holes includes a pair of screw receiving holes along said upper edge and a pair of screw receiving holes along said lower edge, one of said pair of bone screw receiving holes being adapted to position bone screws in a convergent relationship to one another.

109. The implant of claim 108, wherein the other of said pair of bone screw receiving holes is adapted to position bone screws in a divergent relationship to one another.

110. The implant of claim 100, further comprising at least one lock for retaining a bone screw within said implant.

111. The implant of claim 110, wherein said at least one lock retains a plurality of bone screws to said implant.

112. The implant of claim 100, further comprising at least one bone screw having a leading end for placement in the vertebral body and a trailing end opposite said leading end adapted to cooperatively engage said implant so as to prevent the further advancement of the screw into the bone and to be retained within one of said plurality of bone screw receiving holes of said implant.

113. The implant of claim 100, wherein said implant comprises one of bone and bone growth promoting material.

114. The implant of claim 113, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

115. The implant of claim 100, wherein said implant comprises at least one of the following materials: metal, titanium, plastic and ceramic.

116. The implant of claim 100, wherein said implant has an interior surface and a hollow defined therein, said hollow being capable of containing bone growth promoting material.

117. The implant of claim 116, wherein said bone growth promoting material is selected from one of bone morphogenetic protein, hydroxyapatite, and genes coding for the production of bone.

118. The implant of claim 100, in combination with a chemical substance to inhibit scar formation.